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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/528,164

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EXAMINER

UHLIR, CHRISTOPHER J

ART UNIT

PAPER NUMBER

2832

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/528,164	Applicant(s) SHARMA, RAVI	
	Examiner CHRISTOPHER UHLIR	Art Unit 2832	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 October 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,5 and 8 is/are pending in the application.
- 4a) Of the above claim(s) 8 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 March 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>05/13/2008; 01/16/2009; and 02/12/2009</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group I in the reply filed on October 22, 2009 is acknowledged. The traversal is on the ground(s) that applicant "disagrees that Invention Groups I and II are not so linked as to form a single general inventive concept under PCT Rule 13.1. Such linkage, we submit, is disclosed throughout, and is inherent in, the Specification." This is not found persuasive because "the requirement of unity of invention referred to in Rule 13.1 shall be fulfilled only when there is a technical relationship among those inventions involving one or more of the same or corresponding special technical features. The expression 'special technical features' shall mean those technical features that define a contribution which each of the claimed inventions, considered as a whole, makes over the prior art." PCT Rule 13.2. In this case, Group I (claims 1 and 5), directed to an electronic keyboard which is generally shown in FIG. 2, having a first and second keyboard, each having a specified length and being generally coextensive with the other keyboard is considered to be a different inventive concept than Group II (claim 8), directed to a floating key which is generally shown in FIG. 12, supported by and suspended over resilient members located at opposite ends of the key. The special technical features of these inventions which distinguish over the prior art are distinct from each other, and therefore are considered to be directed to different inventive concepts. The requirement between Groups I and II is still deemed proper and is therefore made FINAL.

Art Unit: 2832

2. The species restriction within Group I is withdrawn based on applicant's arguments, see page 3, lines 4-5 of the response to election requirement.

Claim Objections

3. Claims 1 and 5 are objected to under C.F.R. 37 § 1.75 (a).

The specification must conclude with a claim particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

These claims include the limitation “for controlling machines, video playback or lighting, and/or the like may be generated and/or activated using a first hand of a user”. The phrase ‘may be generated and/or activated’ does not properly describe the metes and bounds of applicant’s invention. It is unclear if the stated functions are required to be generated and/or activated by the claim or not. An electronic keyboard instrument which controls machines, video playback or lighting, and similarly an electronic keyboard instrument which does not control machines, video playback or lighting then properly reads on applicant’s claimed limitation. Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1 and 5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 5 include the limitation “electronic signals having audible, visible, amplifiable, recordable and/or like characteristics”. This limitation does not properly describe the metes and bounds of applicant's invention. It is unclear which additional electronic signal characteristics would read on applicant's intended meaning of ‘like characteristics’. For examining purposes, this limitation is interpreted as stating “electronic signals having audible, visible, amplifiable, or recordable characteristics”.

These claims further include the limitation “(iv) processes or mechanisms, triggered or controlled by external signals or data”. However the claims do not disclose which processes or mechanisms would properly read on this limitation. It is unclear if ‘processes or mechanisms’ are meant to further limit or broaden applicant's claim since these terms are not further described with respect to the structure of the claimed electronic keyboard.

These claims further include the limitation “for controlling machines, video playback or lighting, and/or the like”. This limitation does not properly describe the metes and bounds of applicant's invention. It is unclear which additional functions would read on applicant's intended meaning of ‘or the like’. For examining purposes, this limitation is interpreted as stating “for controlling machines, video playback or lighting”.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

Art Unit: 2832

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tait (US 4,304,167) in view of Hill (US 4,126,070). Tait discloses an electronic keyboard instrument (column 1 lines 51-55), comprising controllers for enabling activation of electronic signals having visual characteristics (lighting) (column 3 lines 20-24). Fig. 1 shows the electronic keyboard instrument to have a first keyboard (manual 10) having a first length and oriented in a first direction (toward the user), and a second keyboard (manual 16) having a second length, being generally coextensive with and oriented generally opposite to the first keyboard (10). Audible notes of music from internal sound modules are typically generated by the hands of a user through actuation of keys of electronic keyboards as can be seen from Fig. 1. It is further disclosed that an external program controlled apparatus (computer) is in communication with the electronic keyboard (column 1 lines 47-50). This would allow data transfer to the external program controlled apparatus, said data could then be recorded (stored) and modified on said external program controlled apparatus. Processes for controlling lighting are also activated using the hands of the user (column 3 lines 20-24).

An interface (panel) is further shown in Fig. 2 for connecting the controller to an external device such as a synthesizer (column 1 lines 51-53), where synthesizers are known in the art to have a sound module and signal enhancement functions. The controllers are further disclosed to include a plurality of peripheral devices (switches and slide ports) for interactive control and manipulation of signals (column 3 lines 20-24). Said electronic keyboard instrument further includes a wearable support (support

Art Unit: 2832

means) mounted to the instrument for suspending the first keyboard (10) and second keyboard (16) from the user's body during operation (column 1 lines 39-42). This reference fails to explicitly disclose a power source connected to the electronic keyboard instrument, and photoelectric signals used by the electronic keyboard instrument.

However Hill teaches an electronic keyboard instrument having a power source (current source) and using photoelectric signals (column 8 lines 4-12).

Since these references pertain to an electronic keyboard instrument, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the electronic keyboard instrument disclosed by Tait with providing a power source connected to the electronic keyboard instrument, and photoelectric signals used by the electronic keyboard instrument as taught by Hill. Doing so would provide a portable electronic keyboard instrument which can be "free to move away from a fixed-panel location" as stated in Tait (column 1 lines 56-61).

Allowable Subject Matter

8. Claim 5 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

9. The following is a statement of reasons for the indication of allowable subject matter:

The prior art does not teach nor suggest an electronic keyboard instrument defined by upper and lower surfaces arranged generally parallel to one another with

Art Unit: 2832

corresponding opposing curvilinear edges, and side surfaces separating the upper and lower surfaces, the side surfaces having edges for sealing engagement with the curvilinear edges, the instrument comprising a controller for enabling activation of electronic signals having audible, visible, amplifiable, or recordable characteristics, a power source for operating the controller; a first arcuate keyboard having a first selected length and oriented in a first position such that (i) audible notes of music from at least one internal sound module and/or at least one external sound module, (ii) recordable data to be enhanced or modified by an external sequencer or program controlled apparatus, (iii) photoelectric signals, and (iv) processes or mechanisms, triggered or controlled by external signals or data, for controlling machines, video playback or lighting, are generated and/or activated using a first hand of a user; a second arcuate keyboard having a second selected length, the second keyboard being generally coextensive with the first and oriented in a fashion generally opposite to that of the first such that (i) audible notes of music from at least one internal sound module and/or at least one external sound module, (ii) recordable data to be enhanced or modified by an external sequencer or program controlled apparatus, (iii) photoelectric signals, and (iv) processes or mechanisms, triggered or controlled by external, signals or data, for controlling machines, video playback or lighting, are be generated and/or activated using a second hand of the user; each of the first and second arcuate keyboards being characterized by keys of continuously varying length, the keys being generally longer at the respective keyboard ends and shorter at the respective keyboard center so as to define an arcuate shape and enhance user operation, an interface for connecting the

controller to at least one external device having sound module, and/or sequencing and signal enhancement functions, a plurality of peripheral devices associated with the controller for interactive control and manipulation of the signals, and a wearable support mounted to the instrument for suspending the first and second keyboards from the user's body during instrument operation. The combinations of the claimed limitations are novel and found to be allowable over prior art. The cited references taken singly or in combination do not anticipate nor make obvious applicant's claimed invention.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 6,118,063 pertains to a keyboard where the keys are unique in length.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHRISTOPHER UHLIR whose telephone number is (571)270-3091. The examiner can normally be reached on Monday-Friday 8:30am-4:30pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin Enad can be reached on 571-272-1990.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR

Art Unit: 2832

only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>.

Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/CHRISTOPHER UHLIR/
Examiner, Art Unit 2832
November 25, 2009

/Jeffrey Donels/
Primary Examiner, Art Unit 2832